

Intranasal Corticosteroid Use Prevalence and Adherence in Allergic Rhinitis: A Cross-sectional Study at Community Pharmacies in Singapore

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Introduction

- Allergic rhinitis (AR) is the inflammation of the nasal mucous membranes due to an excessive immunoglobulin E (IgE) response to allergens. It can be triggered by inhalation of allergens such as dust mites, pollen, animal dander or chemicals.
- Symptoms may include runny, itchy nose with congestion as well as headache, conjunctivitis and impaired sense of smell.
- Globally, it affects about 10 to 20 percent of the population in developed countries, while the prevalence of AR in Singapore was reported to be 13.1%.^{1,2}
- The 2nd or 3rd generation oral antihistamines and intranasal corticosteroids sprays (INCS) are first-line pharmacological treatments for AR. Specifically, INCS is the gold standard treatment for moderate – severe AR.
- INCS have been effective in improving all symptoms of AR. They have also been proven to be safe and well-tolerated in long term use. The adverse effects of INCS are few, mild and have the same incidence as placebo in clinical trials of efficacy.³
- Over the last few years, Singapore's Health Sciences Authority (HSA) has reclassified some INCS and 2nd/3rd generation oral antihistamines from prescription-only medicine (POM) to POMs with exemptions for supply without prescription, with some from pharmacy-only medicine to over the counter.
- Fexofenadine, levocetirizine, desloratadine, triamcinolone acetonide nasal sprays and fluticasone propionate nasal sprays are some examples of reclassified AR medications in recent years. However, there are no published data available on the prevalence of use of AR medications in Singapore.

Objectives

- The primary objective is to evaluate the prevalence of INCS usage as they are the gold standard treatment in moderate – severe AR.
- The secondary objective is to identify reasons driving product preference among AR patients in community pharmacy in Singapore.

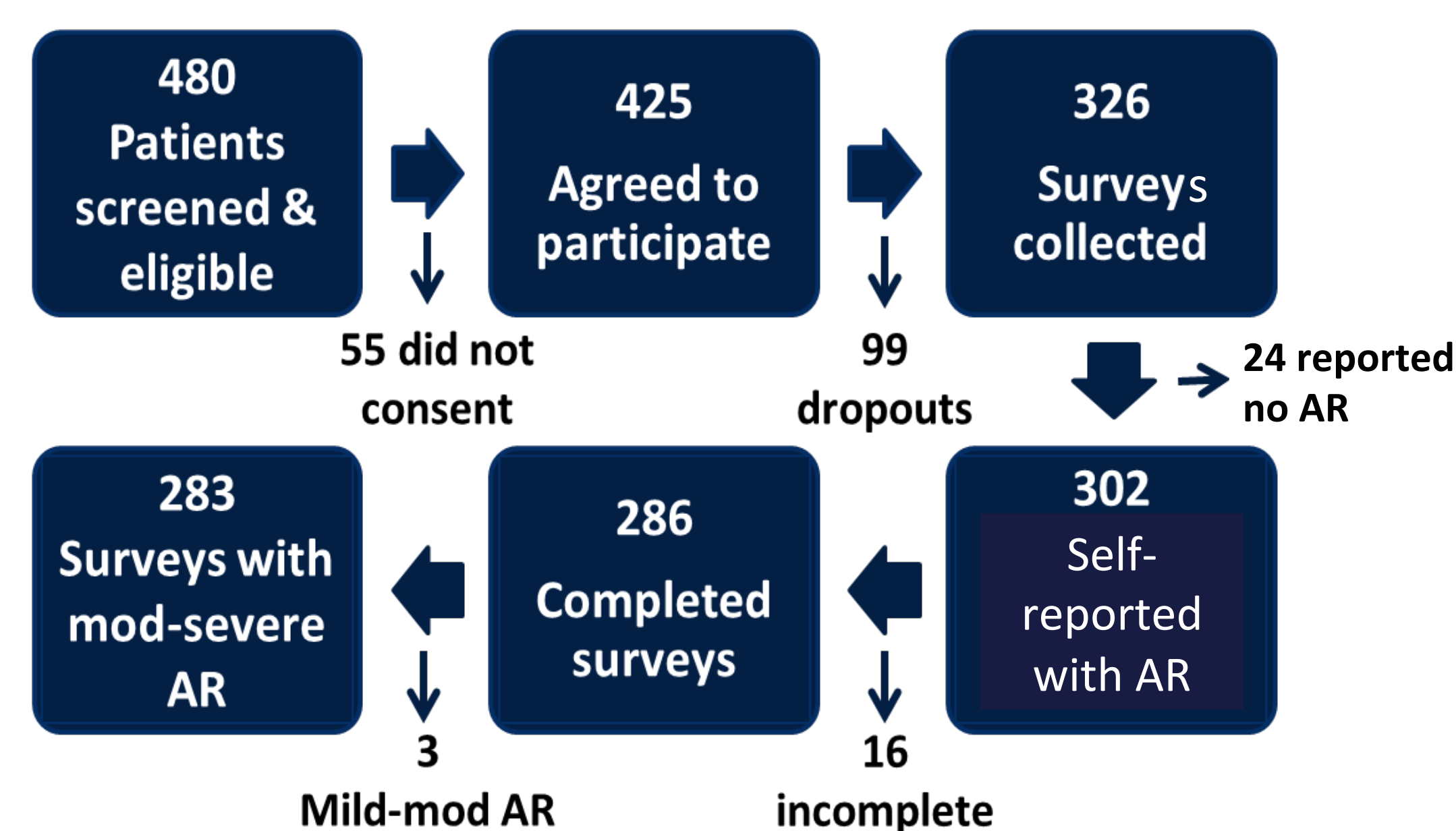
Methods

- This was a cross-sectional study conducted over a period of 5 months from August 2014 to December 2014 across 39 Watson's Personal Care Stores Pte Ltd pharmacies across Singapore.
- The population of AR sufferers who frequent community pharmacies in Singapore was targeted by means of convenience sampling.

Methods cont.

- Potential respondents were at least 21 years old and had AR, either self-diagnosed, previously diagnosed by a doctor or identified by the pharmacist. They were approached by pharmacists to complete a self-administered survey questionnaire.
- Identification of AR was based on respiratory and ocular symptoms consistent with the condition as defined by Allergic Rhinitis and its Impact on Asthma - ARIA guidelines 2008 and Ministry of Health (MOH) Singapore Clinical Practice Guidelines on Management of Rhinosinusitis and Allergic Rhinitis 2010.
- INCS users were asked about their reasons for the preference for INCS products with the option of choosing more than 1 reason.
- Participants who had been instructed by their physician or pharmacist to use their INCS on a daily basis were assessed on their adherence using a modified version of an 8-item Morisky Medication Adherence Scale (MMAS).⁴
- Responses to each question were assigned a binary score (with "1" being adherent, and "0" being non adherent), and the total scores were summed up for each participant and categorized into three groups (i) highly adherent users with a score of 8 on the scale, (ii) intermediate adherers with a score of 6 or 7, and (iii) low adherers with a score of 5 or less.

Results



- As INCS is the gold standard treatment for moderate – severe AR, we excluded responses from mild – moderate AR patients in the final analysis. The overall response rate was 67.9%. Despite being gold standard therapy for moderate-severe AR, only 128 out of 283 (45.2%) respondents were INCS users.
- When asked how they knew about their maiden INCS, majority of them (67.4%) indicated being prescribed INCS by doctors. Only 31 (23.0%) indicated being recommended INCS by their pharmacists (refer to **Table 1**).

Results cont.

Table 1: Initiation of maiden INCS in AR patients

How did you know about this INCS? (n=128)	Number (%)
Prescribed by doctor	91 (67.4)
Recommended by pharmacist	31 (23.0)
Word of mouth (friends, family members)	7 (5.2)
Advertisement	5 (3.7)
My own research	1 (0.7)

- When asked about the choice of INCS that was currently in use, majority (n=61, 36.7%) quoted doctor's prescription as their main reason; with 29 (17.5%) responses attributing to pharmacists' recommendations (refer to **Table 2**).

Table 2: Reasons for in-use INCS preference

Why do you prefer to use this current INCS? (n=128)	Number (%)
It is prescribed by doctor	61 (36.7)
It is recommended by pharmacist	29 (17.5)
It is effective. It works well for me	21 (12.7)
It is likely to be available in most of the community pharmacies or clinics	15 (9.0)
I rarely experience any troublesome side effects due to this medication	13 (7.8)
The price is reasonable	10 (6.0)
Tried other brands before but it is not as effective as this brand	6 (3.6)
It is advertised.	4 (2.4)
Good feedback collated by friends and family members	4 (2.4)
It is manufactured by a reputable company	3 (1.8)

- Among 113 (88.3%) respondents who had been instructed by their pharmacist or physician to use INCS on a daily basis, majority 77% (n=87) were identified as low adherers (score of 0 to 5), while 17.7% (n=20) were medium adherers (score of 6 or 7). Only 5.3% (n=6) of current INCS users were high adherers (score of 8).

Discussion

- Results show that both patients' maiden experience and choice of an INCS product were usually determined by a physician. This could be due to a lack of awareness of the availability of INCS at community pharmacies.

Discussion cont.

- Most INCS users in this study are low adherers which will negatively impact treatment outcomes. More effective and dedicated counseling programs are needed for AR patients to ensure correct usage technique as well as to clear any misconceptions about INCS.
- With the recent reclassifications of INCS and newer generation antihistamines, pharmacists are accorded the autonomy to exercise a greater clinical role when it comes to managing patients with AR as well as knowing when to refer patients for medical attention.

Conclusion

- Despite being gold standard therapy for moderate-severe AR, INCS were underused. Although INCS can be obtained directly from the community pharmacies without a prescription, the number of INCS recommended by pharmacists was lower than that of doctors. Hence, community pharmacists can play a greater role in triage and recommendation of INCS for individuals with AR who may benefit from its use.

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